

# PNEUMATIC ROLLING DIAPHRAGM ACTUATOR TYPE MK

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## GENERALS

The pneumatic diaphragm actuators serial “MK” are actuators with spring return and rolling diaphragm designed for butterfly valves. They deliver the necessary torque to actuate the valve disk.

The “MK” actuator may be used for “shut-off” or for “throttling control” operation, in that last operation with a positioner. In addition to the positioner, they may be equipped with a hand wheel actuation, with limit switch contactors or with an electromagnetic actuation pilot.

## CHARACTERISTICS

### Robustness

The use of noble’s materials and large dimension gives to the actuator “MK” type an exceptional stability in time. Except for the stainless steel parts, all other metallic components undergo an appropriate surface treatment; thus ensuring an excellent corrosion resistance of the actuators.

### Assembly

In four possible positions on the valves can be assemble for AFO and AFC function.

Possibility of field assembly modification without additional parts:

AFO: air failure opening

AFC: air failure closing

### Function:

On-off: AFO or AFC according to the assembly. Throttling control with positioner: AFO or AFC according to assembly.

### Safety

A stop enclosed in the diaphragm case of actuators serial “MK” protects the moving parts – diaphragm, plates, actuator stem and swivel joint – from the effect of any accidental excessive pressure of pneumatic control signal.

The coupling parts, actuator stem, butterfly valve shaft, are mounted in a solid housing fitted with one opened side for supervision and access. That access is closed by a protection grid. That housing however does not enclose the valve packing box, so that the maintenance operation of the valves and that of their actuator are independent.

### Hysteresis

The diaphragm case with floating stem actuates the valve shaft through a swivel actuator and a lever keyed and tightened on the shaft.

That mechanism ensures an accurate positioning of the valve disk while reducing the clearance.

The use of spring belongs to a precise type and of a rolling diaphragm with constant effective cross-section results in an approximately linear characteristic of the actuators serial “MK”.

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Existing range :

Type of actuator	Section	Shut-Off function air supply	Control function supply range	Pause maximal torque	Maximal torque
6225 MK 30	200	3	0,4 – 2	30	150
6225 MK 45	200	4	0,6 – 3,2	45	240
6225 MK 75	200	5	1,7 – 4	75	175
6280 MK 60	350	3	0,4 – 2	60	300
6280 MK 100	350	4,5	0,8 – 3,5	100	430
6350 MK 150	500	5	0,4 – 2	150	750
6350 MK 300	500	5	1,1 – 4	300	1000
6350 MK 360	500	6	1,3 – 5	360	1350
6430 MK 300	800	3	0,4 – 2	300	1500
6430 MK 600	800	5	1 – 4	600	2400
MK Type	cm <sup>2</sup>	bar	bar	Nm	Nm

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## MATERIALS :

2.01	Spring case	Alu AS 10 G	2.13	Swivel	Galvanised steel
2.02	Diaphragm case	Alu AS 10 G	2.14	Housing	Cast iron ENGJS
2.03	Plate	Alu AS 10 G	2.16	Plates	Cast ENGJSL
2.07	Actuator stem	Stainless steel Z30 C13	2.18		
2.06	Spring	Steel XC 85 K	2.17	Bushings	« DU » Bushing
2.04	Diaphragm	Elastomer		Screws	Galvanised steel class 8/8
2.10	Coupling screw	Stainless steel 304L		Painting	Epoxy painting
2.20	Lever	Cast iron ENGJS400			

